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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/730,230	12/08/2003	Bishnu P. Gogoi	SC12116ZP	2513
23125	7590	05/31/2006	EXAMINER	
FREESCALE SEMICONDUCTOR, INC. LAW DEPARTMENT 7700 WEST PARMER LANE MD:TX32/PL02 AUSTIN, TX 78729			ESTRADA, MICHELLE	
			ART UNIT	PAPER NUMBER
			2823	

DATE MAILED: 05/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/730,230

Applicant(s)

GOGOI ET AL.

Examiner

Michelle Estrada

Art Unit

2823

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 23 is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☒ Claim(s) 2 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

Claim Objections

Claim 2 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The limitation of claim 2 already exists in claim 1.

Claim Rejections - 35 USC § 112

Claims 1-22 are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. Reflowing the insulating layer at atmospheric pressure is critical or essential to the practice of the invention, but not included in the claim(s) is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976). The claims recite "forming an insulating layer over the layer at approximately atmospheric pressure to seal the opening", but clearly at page 10 of the specification, paragraph [0046], to seal the opening it's necessary that the insulating layer be reflowed at atmospheric pressure using anneal process.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 4, 9 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Razouk et al. (5,911,109).

Re claims 1 and 2, Razouk et al. disclose providing a semiconductor substrate; forming a layer over the semiconductor substrate; forming an opening within the layer; forming an insulating layer over the layer at approximately atmospheric pressure that would inherently seal the opening (Col. 1, lines 57-65).

Re claim 4, Razouk et al. disclose wherein forming the insulating layer further comprises depositing the insulating layer and annealing the insulating layer at approximately atmospheric pressure.

Re claim 9, Razouk et al. disclose wherein annealing comprises reflowing the insulating layer.

Re claim 11, Razouk et al. disclose wherein forming an insulating layer comprises forming a phosphosilicate glass (PSG) (Col. 1, lines 55-57).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3, 5-8 rejected under 35 U.S.C. 103(a) as being unpatentable over Razouk et al. as applied to claims 1, 2, 4, 9 and 11 above, and further in view of the following comments.

Re claim 3, Razouk et al. do not disclose wherein the depositing is performed by CVD.

However, the Examiner takes judicial notice that depositing an insulating layer by CVD is well known in the art at the time of Applicant's invention. It would have been obvious to one of ordinary skill in the art to deposit the insulating layer by CVD to achieve the instant invention.

Re claim 5-8, Razouk et al. do not specifically disclose a type of annealing process.

The Examiner takes judicial notice that furnace anneal, localized anneal, annealing in dopant atmosphere and laser anneal are well known in the art at the time of Applicant's invention. It would have been obvious to one of ordinary skill in the art to use any of these types of anneal to achieve the instant invention. See Sze, "VLSI Technology", pages 355-362.

Allowable Subject Matter

Claim 23 is allowed.

Response to Arguments

Applicant's arguments with respect to claims 1 and 13 have been considered but are moot in view of the new ground(s) of rejection.

Applicant requested the status of claim 2; the claim was objected as indicated in page 2 of the office action mailed 12/16/05.

Applicant argues that forming the insulating layer at approximately atmospheric pressure is not an optimization of the deposition process and thus is not done to achieve a desired rate of deposition. However, Applicant does not point to objective evidence establishing these results.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michelle Estrada whose telephone number is 571-272-1858. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Smith can be reached on 571-272-1907. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-2800.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Michelle Estrada
Primary Examiner
Art Unit 2823

ME
May 25, 2006